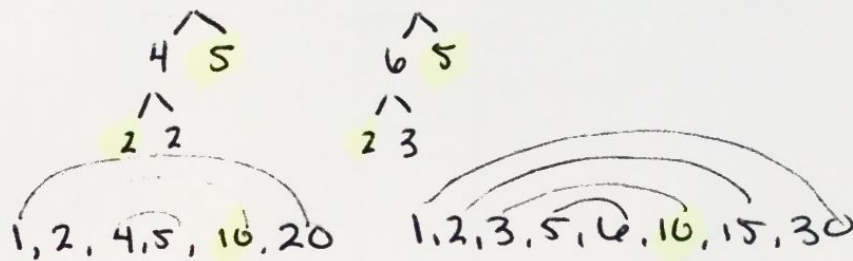


Notes 12/2 - Factoring Using the GCF

GCF = Greatest Common Factor

→ The biggest number that can be multiplied into a set of numbers.

Ex: the GCF of 20 and 30 is 10.



To Factor Using the GCF

Step 1: Find GCF

Step 2: Pull/divide out the GCF from each piece

GCF (leftovers)

Step 3: Check your work by distributing

Ex 1: Factor $4x^2 + 10x$

S1: $GCF = 2x$

S2: $2x(2x + 5)$

S3: Check $2x(2x + 5)$
 $4x^2 + 10x \checkmark$

Ex 2: Factor $10x^3y - 5x^2y^2 + 25xy^3$

$\begin{matrix} x & \cdot & x & \cdot & x \\ 1 & \cdot & x & \cdot & x \end{matrix}$
 $\begin{matrix} x & \cdot & x \\ x & \cdot & x \end{matrix}$
 $\begin{matrix} x & \cdot & y \\ x & \cdot & y \end{matrix}$

S1: $5xy$

S2: $5xy(2x^2 - 1xy + 5y^2)$

S3: Check

$5xy(2x^2 - 1xy + 5y^2)$

$10x^3y - 5xy^2 + 25xy^3$

\checkmark
 \checkmark
 \checkmark